

## CLAIMS

1       1. A chemical-analysis system comprising:  
2       a longitudinally extending primary separation channel; and  
3       plural pumps, said pumps being in fluid communication with  
4       said channel via respective conduits, said conduits being  
5       longitudinally distributed along said channel, each of said conduits  
6       extending more transversely than longitudinally, said pumps having  
7       respective exit nozzles, each of said pumps being adapted for  
8       extracting fluid from said channel into said pump via its respective  
9       conduit and for expelling fluid from said pump via its respective  
10      nozzle.

1       2. A chemical-analysis system as recited in Claim 1 further  
2       comprising means for parallel analysis of fluids expelled  
3       concurrently from respective pumps.

1       3. A chemical-analysis system as recited in Claim 1 further  
2       comprising plural secondary separation channels, each of which is  
3       arranged to receive fluid expelled from a respective one of said  
4       pumps.

1       4. A chemical-analysis system as recited in Claim 1 wherein each  
2       of said pumps has a piezo-electric drive element that can be used in  
3       expelling fluid.

1       5. A chemical-analysis system as recited in Claim 1 wherein said  
2       primary separation channel employs iso-electric focusing.

1       6. A chemical-analysis system as recited in Claim 1 wherein each  
2       of said pumps causes fluid expelled thereby to form into a jet upon  
3       exiting a respective nozzle.

1       7. A chemical-analysis system as recited in Claim 6 further  
2 comprising means for moving a collection medium relative to said  
3 pumps for providing a two-dimensional time-vs-channel-location  
4 distribution of said sample components.

1       8. A chemical-analysis system as recited in Claim 7 wherein said  
2 collection medium is a solid substrate and said distribution  
3 constitutes a microarray.

1       9. A chemical-analysis system as recited in Claim 8 wherein said  
2 solid substrate is a MALDI plate.

1       10. A chemical-analysis method comprising:  
2 separating sample components along a longitudinally-extending  
3 primary separation channel; and  
4 concurrently transversely pumping fluid from at least two  
5 discrete longitudinally-separated locations along said channel so  
6 that said fluid is extracted transversely into a pump and then  
7 expelled from said pump through a nozzle.

1       11. A chemical-analysis method as recited in Claim 10 further  
2 comprising subjecting fluids expelled from said at least two discrete  
3 longitudinally-separated locations to concurrent parallel respective  
4 analyses.

1       12. A chemical-analysis method as recited in Claim 10 further  
2 comprising, after said pumping, separating components of fluid  
3 expelled from each of said pumps using a respective secondary  
4 separation channel.

1       13. A chemical-analysis method as recited in Claim 10 wherein  
2 said pumping involves activating piezo-electric drive elements.

1       14. A chemical-analysis method as recited in Claim 10 wherein  
2 said separating involves iso-electric focusing.

1       15. A chemical-analysis method as recited in Claim 14 further  
2 comprising:

3       shifting a pH gradient in said primary separation channel; and  
4       transversely pumping fluid from at least one location along said  
5 channel so that said fluid is extracted transversely into a pump and  
6 then expelled from said pump through a nozzle.

1       16. A chemical-analysis method as recited in Claim 10 wherein,  
2 said pumping expels fluid in the form of jets.

1       17. A chemical-analysis method as recited in Claim 16 further  
2 comprising collecting fluid expelled in the form of jets on a  
3 collection medium moving relative to said jets to yield a two-  
4 dimensional time-vs-separation-location distribution of said  
5 components.

1       18. A chemical-analysis method as recited in Claim 17 wherein  
2 said collection medium is a solid substrate and said distribution is a  
3 microarray.

1       19. A chemical-analysis method as recited in Claim 18 wherein  
2 said solid substrate is a MALDI plate.